WHAT IS CLAIMED IS:

1. A system for generating a description record from image information, comprising:

at least one image input interface for receiving said image information;

a computer processor coupled to said at least one image input interface for receiving said image information therefrom, processing said image information by performing image object extraction processing to generate image object descriptions from said image information, processing said generated image object descriptions by object hierarchy construction and extraction processing to generate image object hierarchy descriptions, and processing said generated image object descriptions by entity relation graph generation processing to generate entity relation graph descriptions, wherein at least one description record including said image object descriptions, said image object hierarchy descriptions and said entity relation graph descriptions is generated to represent content embedded within said image information; and

a data storage system, operatively coupled to said processor, for storing said at least one description record.

2. The system of claim 1, wherein said image object extraction processing and said object hierarchy construction and extraction processing are performed in parallel.

3. The system of claim 1, wherein said image object extraction processing comprises:

image segmentation processing to segment each image in said image information into regions within said image; and

feature extraction and annotation processing to generate one or more feature descriptions for one or more said regions;

whereby said generated image object descriptions comprise said one or more feature descriptions for one or more said regions.

4. The system of claim 3, wherein said one or more feature descriptions are selected from the group consisting of media features, visual features, and semantic features.

5. The system of claim 4, wherein said semantic features are further defined by at least one feature description selected from the group consisting of who, what object, what action, where, when, why, code downloading, and text annotation.

6. The system of claim 4, wherein said visual features are further defined by at least one feature description selected from the group consisting of color, texture, position, size, shape, motion, code downloading, and orientation.

7. The system of claim 4, wherein said media features are further defined by at least one feature description selected from the group consisting of file format, file size, color representation, resolution, data file location, author, creation, scalable layer, code downloading, and modality transcoding.

8. The system of claim 1, wherein said object hierarchy construction and extraction processing generates image object hierarchy descriptions of said image object descriptions based on visual feature relationships of image objects represented by said image object descriptions.

9. The system of claim 1, wherein said object hierarchy construction and extraction processing generates image object hierarchy descriptions of said image object descriptions based on semantic feature relationships of image objects represented by said image object descriptions.

10. The system of claim 1, wherein said object hierarchy construction and extraction processing generates image object hierarchy descriptions of said image object descriptions based on media feature relationships of image objects represented by said image object descriptions.

11. The system of claim 1, wherein said object hierarchy construction and extraction processing generates image object hierarchy descriptions of said image object descriptions based on relationships of image objects represented by said image object descriptions, wherein said relationships are selected from the group consisting of visual feature relationships, semantic feature relationships and media feature relationships.

12. The system of claim 1, wherein said object hierarchy construction and extraction processing generates image object hierarchy descriptions of said image object descriptions based on relationships of image objects represented by said image object descriptions, wherein said image object hierarchy descriptions have a plurality of hierarchical levels.

13. The system of claim 12, wherein said image object hierarchy descriptions having a plurality of hierarchical levels comprise clustering hierarchies.

14. The system of claim 13, wherein said clustering hierarchies are based on relationships of image objects represented by said image object descriptions, wherein said relationships are selected from a group consisting of visual feature relationships, semantic feature relationships and media feature relationships.

15. The system of claim 1, wherein said entity relation graph generation processing generates entity relation graph descriptions of said image object descriptions based on relationships of image objects represented by said image object descriptions, wherein said relationships are selected from the group consisting of

visual feature relationships, semantic feature relationships and media feature relationships.

16. The system of claim 1, further comprising an encoder for receiving and encoding said image object descriptions into encoded description information, wherein said data storage system is operative to store said encoded description information as said at least one description record.

17. The system of claim 1, wherein said image object descriptions, said image object hierarchy descriptions, and said entity relation graph descriptions are combined together to form image descriptions, and further comprising an encoder for receiving and encoding said image descriptions into encoded description information, wherein said data storage system is operative to store said encoded description information as said at least one description record.

18. The system of claim 17, wherein said encoder comprises a binary encoder.

19. The system of claim 17, wherein said encoder comprises an XML encoder.

20. A method for generating a description record from image information, comprising the steps of:

receiving said image information;

processing said image information by performing image object extraction processing to generate image object descriptions from said image information;

processing said generated image object descriptions by object hierarchy construction and extraction processing to generate image object hierarchy descriptions;

processing said generated image object descriptions by entity relation graph generation processing to generate entity relation graph descriptions, wherein at least one description record including said image object descriptions, said image object hierarchy descriptions and said entity relation graph descriptions is generated to represent content embedded within said image information; and

storing said at least one description record.

21. The method of claim 20, wherein said steps of image object extraction processing and object hierarchy construction and extraction processing are performed in parallel.

22. The method of claim 20, wherein said step of image object extraction processing comprises the further steps of:

image segmentation processing to segment each image in said image information into regions within said image; and

feature extraction and annotation processing to generate one or more feature descriptions for one or more said regions;

whereby said generated image object descriptions comprise said one or more feature descriptions for one or more said regions.

23. The method of claim 22, further comprising the step of selecting said one or more feature descriptions from the group consisting of media features, visual features, and semantic features.

24. The method of claim 23, wherein said semantic features are further defined by at least one feature description selected from the group consisting of who, what object, what action, where, when, why, code downloading, and text annotation.

25. The method of claim 23, wherein said visual features are further defined by at least one feature description selected from the group consisting of color, texture, position, size, shape, motion, code downloading, and orientation.

26. The method of claim 23, wherein said media features are further defined by at least one feature description selected from the group consisting of file format, file size, color representation, resolution, data file location, author, creation, scalable layer, code downloading, and modality transcoding.

27. The method of claim 20, wherein said step of object hierarchy construction and extraction processing generates image object hierarchy descriptions of said image object descriptions based on visual feature relationships of image objects represented by said image object descriptions.

28. The method of claim 20, wherein said step of object hierarchy construction and extraction processing generates image object hierarchy descriptions of said image object descriptions based on semantic feature relationships of image objects represented by said image object descriptions.

29. The method of claim 20, wherein said step of object hierarchy construction and extraction processing generates image object hierarchy descriptions of said image object descriptions based on media feature relationships of image objects represented by said image object descriptions.

30. The method of claim 20, wherein said step of object hierarchy construction and extraction processing generates image object hierarchy descriptions of said image object descriptions based on relationships of image objects represented by said image object descriptions, wherein said relationships are selected from the group consisting of visual feature relationships, semantic feature relationships and media feature relationships.

31. The method of claim 20, wherein said step of object hierarchy construction and extraction processing generates image object hierarchy descriptions of said image object descriptions based on relationships of image objects represented by said image object descriptions, wherein said image object hierarchy descriptions are configured to have a plurality of hierarchical levels.

32. The method of claim 31, wherein said image object hierarchy descriptions having a plurality of hierarchical levels are configured to comprise clustering hierarchies.

33. The method of claim 32, wherein said clustering hierarchies are configured to be based on relationships of image objects represented by said image object descriptions, wherein said relationships are selected from a group consisting of visual feature relationships, semantic feature relationships and media feature relationships.

34. The method of claim 20, wherein said step of entity relation graph generation processing generates entity relation graph descriptions of said image object descriptions based on relationships of image objects represented by said image object descriptions, wherein said relationships are selected from the group consisting of visual feature relationships, semantic feature relationships and media feature relationships.

35. The method of claim 20, further comprising the steps of receiving and encoding said image object descriptions into encoded description information, and storing said encoded description information as said at least one description record.

36. The method of claim 20, further comprising the steps of combining said image object descriptions, said image object hierarchy descriptions,

and said entity relation graph descriptions to form image descriptions, and receiving and encoding said image descriptions into encoded description information, and storing said encoded description information as said at least one description record.

37. The method of claim 36, wherein said step of encoding comprises the step of binary encoding.

38. The method of claim 36, wherein said step of encoding comprises the step of XML encoding.

39. A computer readable media containing digital information with at least one description record representing image content embedded within corresponding image information, the at least one description record comprising:

one or more image object descriptions generated from said image information using image object extraction processing;

one or more image object hierarchy descriptions generated from said generated image object descriptions using object hierarchy construction and extraction processing; and

one or more entity relation graph descriptions generated from said generated image object descriptions using entity relation graph generation processing.

40. The computer readable media of claim 39, wherein said image object descriptions, said image object hierarchy descriptions, and said entity relation graph descriptions further comprise one or more feature descriptions.

41. The computer readable media of claim 40, wherein said one or more feature descriptions are selected from the group consisting of media features, visual features, and semantic features.

42. The computer readable media of claim 41, wherein said semantic features are further defined by at least one feature description selected from the group consisting of who, what object, what action, where, when, why, code downloading, and text annotation.

43. The computer readable media of claim 41, wherein said visual features are further defined by at least one feature description selected from the group consisting of color, texture, position, size, shape, motion, code downloading, and orientation.

44. The computer readable media of claim 41, wherein said media features are further defined by at least one feature description selected from the group consisting of file format, file size, color representation, resolution, data file location, author, creation, scalable layer, code downloading, and modality transcoding.

45. The computer readable media of claim 39, wherein said object hierarchy descriptions are based on visual feature relationships of image objects represented by said image object descriptions.

46. The computer readable media of claim 39, wherein said image object hierarchy descriptions are based on semantic feature relationships of image objects represented by said image object descriptions.

47. The computer readable media of claim 39, wherein said image object hierarchy descriptions are based on media feature relationships of image objects represented by said image object descriptions.

48. The computer readable media of claim 39, wherein said image object hierarchy descriptions are based on relationships of image objects represented

by said image object descriptions, wherein said image object hierarchy descriptions have a plurality of hierarchical levels.

49. The computer readable media of claim 48, wherein said image object hierarchy descriptions having a plurality of hierarchical levels comprise clustering hierarchies.

50. The computer readable media of claim 49, wherein said clustering hierarchies are based on relationships of image objects represented by said image object descriptions, wherein said relationships are selected from a group consisting of visual feature relationships, semantic feature relationships and media feature relationships.

51. The computer readable media of claim 39, wherein said entity relation graph descriptions are based on relationships of image objects represented by said image object descriptions, wherein said relationships are selected from the group consisting of visual feature relationships, semantic feature relationships and media feature relationships.

52. The computer readable media of claim 39, wherein said image object descriptions are in the form of encoded description information.

53. The computer readable media of claim 39, wherein said image object descriptions, said image object hierarchy descriptions, and said entity relation graph descriptions are combined together in the form of encoded description information.

54. The computer readable media of claim 53, wherein said encoded description information is in the form of binary encoded information.

55. The computer readable media of claim 53, wherein said encoded description information is in the form of XML encoded information.

56. The system of claim 12, wherein said image object hierarchy descriptions having a plurality of hierarchical levels are configured to comprise multiple levels of abstraction hierarchies.

57. The system of claim 56, wherein said multiple levels of abstraction hierarchies are configured to be based on relationships of image objects represented by said image object descriptions, wherein said relationships are selected from a group consisting of visual feature relationships, semantic feature relationships, and media feature relationships.

58. The method of claim 31, wherein said image object hierarchy descriptions having a plurality of hierarchical levels are configured to comprise multiple levels of abstraction hierarchies.

59. The method of claim 58, wherein said multiple levels of abstraction hierarchies are configured to be based on relationships of image objects represented by said image object descriptions, wherein said relationships are selected from a group consisting of visual feature relationships, semantic feature relationships, and media feature relationships.

60. The computer readable media of claim 48, wherein said image object hierarchy descriptions having a plurality of hierarchical levels are configured to comprise multiple levels of abstraction hierarchies.

61. The computer readable media of claim 60, wherein said multiple levels of abstraction hierarchies are configured to be based on relationships of image objects represented by said image object descriptions, wherein said

relationships are selected from a group consisting of visual feature relationships, semantic feature relationships, and media feature relationships.

62. The system of either claim 3 or 4, wherein said one or more feature descriptions include pointers to extraction and matching code in order to facilitate code downloading.

63. The method of either claim 22 or 23, wherein said one or more feature descriptions include pointers to extraction and matching code in order to facilitate code downloading.

64. The computer readable media of either claim 40 or 41, wherein said one or more feature descriptions include pointers to extraction and matching code in order to facilitate code downloading.